

THE LARVA OF *TVETENIA VITRACIES* (SAETHER)
(DIPTERA: CHIRONOMIDAE)

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Abstract.—The fourth instar larva of *Tvetenia vitracies* (Saether) is described and important taxonomic characters are illustrated. This larva belongs to the *Tvetenia discoloripes* species group as defined by Bode (1983) based on the single median mental tooth and the prominent ventromental plates. Potential diagnostic species characters include the three long serrations on the inner mandibular margin, postoccipital margin entirely dark brown, and head capsule yellow with light brown gular region.

Saether (1969) described the male and female imagines and the pupa of *Eukiefferiella vitracies*. This species was later placed in *Tvetenia* by Saether and Halvorsen (1981) who considered it a senior synonym of *Eukiefferiella*. Cranston et al. (1983) provided a description and illustrations of the larva of *Tvetenia*. In a recent study of the Chironomidae of the Saskatchewan River (Mason, 1983), several imagines and pupae were reared from fourth instar larvae collected from mud, sand and gravel substrates in shallow (0.5–1.0 m), slow-flowing water.

The larva belongs to the *discoloripes* species group of *Tvetenia* as defined by Bode (1983), possessing a single median mental tooth, posterolaterally pointed ventromental plates, and longer serrations on the inner mandibular margin. Saether (1969) stated that the male imago of *vitracies* belonged to the *bavarica* species group while the pupa showed characters of both the *bavarica* and *discoloripes* species groups. Bode (1983) interpreted that Saether (1969) placed *vitracies* as part of the *bavarica* group. Since the new information presented here indicates that the larva of *vitracies* unquestionably belongs to the *discoloripes* group, a re-evaluation of the species groups may be necessary.

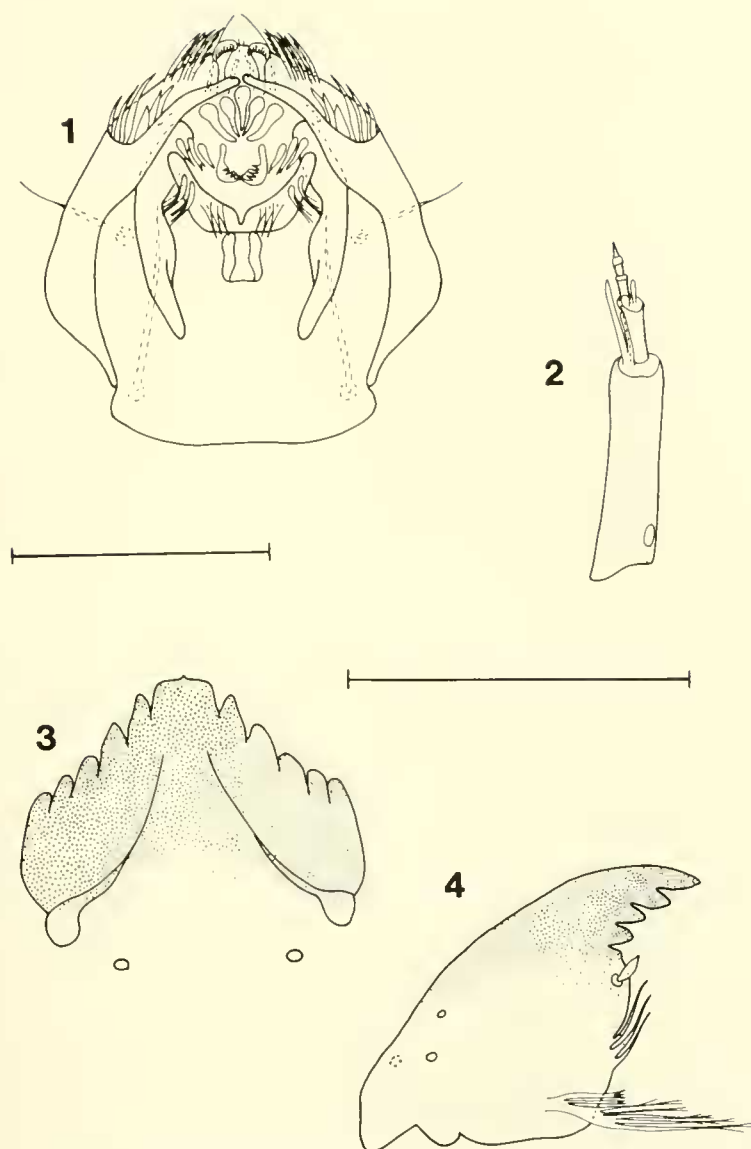
Bode (1983) was not able to find suitable diagnostic characters for larvae of the species of the *discoloripes* group. Potentially useful characters that may separate the larva of *vitracies* from other species of *Tvetenia* include the three long serrations on the inner mandibular margin, the entirely dark brown postoccipital margin and the yellow head capsule with a light brown gular region.

The Saskatchewan River records represent a north and westward range extension for *T. vitracies*. Universal Transverse Mercator Grid coordinates are presented in brackets following each locality.

FOURTH INSTAR LARVA OF *EUKIEFFERIELLA VITRACIES* SAETHER

Figs. 1-4

Description (n = 10, except when otherwise indicated).—Head capsule yellow, with dark brown apex of mandible, dark brown mentum and postoccipital margin,



Figs. 1-4. *Tvetenia vitracies* (Saether). 1, Epipharynx. 2, Antenna. 3, Mentum and ventromental plates. 4, Mandible. Scales, 100 μm .

and light brown gular region. Body blackish. Head capsule 280 μm ($n = 1$) wide; ventral head length 225 (205-260) μm . Antenna (Fig. 2) 100 (95-109) ($n = 8$) μm long; individual segments I-V 66 (63-70): 18 (15-20): 7 (6-8): 5 (4-5): 5 (5-6) ($n = 8$) μm long; antennal ratio 1.92 (1.76-2.09) ($n = 8$); ring organ on basal 0.19 (0.16-0.21) ($n = 8$) of first segment; antennal blade 33 (29-37) ($n = 5$) μm long; accessory blade 18 (14-20) ($n = 3$) μm long; lauterborn organs apically on segment II, 8 (6-10) ($n = 5$) μm long; antennal style preapically on segment II, 8 (6-10) ($n = 6$) μm long. Epipharynx (Fig. 1). Labrum with SI plumose, with 8 lobes, 16

(15–19) ($n = 6$) μm long; SII simple, 16 (10–18) ($n = 4$) μm long. Premandible simple, 68 (65–70) ($n = 5$) μm long. Mandible (Fig. 4) 127 (119–137) μm long; basal width 76 (68–94) μm ; with three long serrations, each 20 (15–22) μm long, anteriormost reaching base of seta subdentalis; ratio of mandible length to basal width 1.67 (1.32–1.94); seta subdentalis 10 (9–11) μm long; seta interna with 7 serrated branches arising from single trunk. Mentum (Fig. 3) 104 (101–111) ($n = 7$) μm wide, with 11 teeth; single median tooth peaked, 9 (7–11) ($n = 6$) μm long and 23 (20–27) ($n = 6$) μm wide at base; median tooth height/basal width 0.44 (0.30–0.55) ($n = 6$); median tooth 2.40 (2.00–2.88) ($n = 6$) times as wide as first lateral tooth. Ventromental plates prominent. Maxillary palp with first segment 1.68 (1.18–2.00) ($n = 7$) times as long as basal width. Each body segment with simple setae. Anterior parapod claws weakly pectinate. Posterior parapods with 14–15 simple claws. Each procercus 1.62 (1.30–1.84) ($n = 9$) times as long as basal width, with 6 apical and 1 lateral setae.

Material examined.—SASKATCHEWAN: 2 pupae, reared from larvae, Saskatchewan River, 6.4 km upstream from Nipawin (13UEK6208), 19/V/79, P. G. Mason; ♂, 2 ♀, reared, 7 pupae, reared from larvae, Saskatchewan River, 18 km downstream from Squaw Rapids Powerhouse (13UFG2455), 13/VIII/79, P. G. Mason.

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